**39: Cells Alive!**

Date:

Challenge Q:

Answer:

Background:

1. Cells are alive.
2. Many organisms, including people, are multicellular (many-celled).
3. The oxygen in the lungs is then carried by the blood to cells in different parts of the body. These individual cells respire and produce wastes, including carbon dioxide
4. Oxygen is transported to the tissues by capillaries and carbon dioxide was released.
5. Breathing is the mechanical process by which air is taken into the lungs and wastes are exhaled
6. Respiration is the breakdown of nutrients to produce energy and carbon dioxide
7. In all organisms, respiration occurs within the cells.

Cellular Respiration

C12H22O11 + 12 O2  12 CO2 + 11 H2O + energy

Sucrose + oxygen produces carbon dioxide +water + energy

Composition of Breath

|  |  |  |
| --- | --- | --- |
| **Components of**  **Earth’s Atmosphere** | **Composition of Air**  **Breathed In (%)** | **Composition of Air**  **Breathed Out (%)** |
| **Nitrogen** | 78 | 75 |
| **Oxygen** | 21 | 16 |
| **Argon** | 0.9 | 0.9 |
| **Carbon dioxide** | 0.035 | 4.0 |
| **Water vapor** | 0.4 | 4.0 |